

IN THE CLAIMS:

Please cancel Claim 14 without prejudice or disclaimer of subject matter, add Claims 21 to 24 and amend the claims as shown below. The claims, as pending in the subject application, read as follows:

1. to 12. (Canceled)

13. (Currently Amended) A system for counting the number of layers of a multilayer object, comprising:

an oscillation unit for oscillating an electromagnetic wave ~~pulse~~ having a frequency in a range from 30 GHz to 100 THz to irradiate either a top surface or a bottom surface of the multilayer object;

a first reception unit for receiving electromagnetic wave pulses reflected at interfaces of the layers of the multilayer object; [[and]]

a first processing unit for temporally sampling an output value of the reflected electromagnetic wave pulses at every split time to obtain a temporal waveform of the reflected electromagnetic wave pulses, said split time being shorter than a pulse width of the temporal waveform, wherein the temporal waveform is used for counting the number of pulses, and the number of layers of the multilayer object is counted on the basis of the counted number of pulses;

a second reception unit for receiving an electromagnetic wave generated by transmission of the electromagnetic wave oscillated by said oscillation unit through the multilayer object; and

a second processing unit for detecting a delay time of the transmitted electromagnetic wave, relative to an electromagnetic wave to be detected when the multilayer object is absent, for counting the number of layers of the multilayer object on the basis of the delay time,

wherein the number of layers counted by the first processing unit is compared with the number of layers counted by the second processing unit, and if the number of layers counted by the first processing unit is not equal to the number of layers counted by the second processing unit, an average of the number of layers counted by both the first processing unit and the second processing unit is computed.

14. (Canceled)

15. (Currently Amended) The system according to claim [[14]] 13, further comprising:

a dividing unit for dividing the electromagnetic wave ~~pulse~~ oscillated by said oscillation unit into a first electromagnetic wave ~~pulse~~ for irradiating the multilayer object and a second electromagnetic wave ~~pulse~~ to be propagated directly to said first reception unit or said second reception unit.

16. (Currently Amended) The system according to claim [[14]] 13, further comprising:

a propagation unit for propagating the electromagnetic wave ~~pulse~~ oscillated by said oscillation unit through a propagation route getting to said first reception unit or

said second reception unit.

17. (Currently Amended) A method for counting the number of layers of a multilayer object, comprising:

an oscillation step of oscillating an electromagnetic wave ~~pulse~~ having a frequency in a range from 30 GHz to 100 THz to irradiate either a top surface or a bottom surface of a multilayer object;

a first reception step of receiving electromagnetic wave pulses reflected at interfaces of the layers of the multilayer object; [[and]]

a first processing step of temporally sampling an output value of the reflected electromagnetic wave pulses at every split time to obtain a temporal waveform of the reflected electromagnetic wave pulses, said split time being shorter than a pulse width of the temporal waveform, wherein the temporal waveform is used for counting the number of pulses, and the number of layers of the multilayer object is counted on the basis of the counted number of pulses;

a second reception step of receiving an electromagnetic wave generated by transmission of the electromagnetic wave oscillated in said oscillation step through the multilayer object; and

a second processing step of detecting a delay time of the transmitted electromagnetic wave, relative to an electromagnetic wave to be detected when the multilayer object is absent, for counting the number of layers of the multilayer object on the basis of the delay time,

wherein the number of layers counted in the first processing step is

compared with the number of layers counted in the second processing step, and if the number of layers counted in the first processing step is not equal to the number of layers counted in the second processing step, an average of the number of layers counted in both the first processing step and the second processing step is computed.

18. (Currently Amended) The system according to claim 13, wherein the oscillation unit and the first and second reception units are photoconduction devices, respectively, and the temporal waveform is acquired through a terahertz time domain spectroscopy.

19. (Currently Amended) A system for counting the number of layers of a multilayer object, comprising:

an oscillation unit for oscillating an electromagnetic wave pulse having a frequency in a range from 30 GHz to 100 THz to irradiate either a top surface or a bottom surface of the multilayer object;

a reception unit for receiving an output value of electromagnetic wave pulses reflected at interfaces of the layers of the multilayer object; and

a processing unit for counting the number of layers of the multilayer object on the basis of the number of pulses which is counted by using a temporal waveform of the reflected electromagnetic wave pulses,

wherein the reception unit temporally samples output values of the reflected electromagnetic wave pulses at every split time, said split time being shorter than a pulse width of the temporal waveform, and

wherein the processing unit obtains the temporal waveform by using the output values.

20. (Currently Amended) A method for counting the number of layers of a multilayer object, comprising:

an oscillation step of oscillating an electromagnetic wave pulse having a frequency in a range from 30 GHz to 100 THz to irradiate either a top surface or a bottom surface of a multilayer object;

a reception step of receiving an output value of electromagnetic wave pulses reflected at interfaces of the layers of the multilayer object; and

a processing step of counting the number of layers of the multilayer object on the basis of the number of pulses which is counted by using a temporal waveform of the reflected electromagnetic wave pulses,

wherein the reception step temporally samples output values of the reflected electromagnetic wave pulses at every split time, said split time being shorter than a pulse width of the temporal waveform, and

wherein the processing step obtains the temporal waveform by using the output values.

21. (New) The system according to claim 19, wherein the oscillation unit or the reception unit is comprised of a photoconductive switch, and the temporal waveform is acquired through a terahertz time domain spectroscopy.

22. (New) The system according to claim 19, wherein an object comprised in the multilayer object is within a range of tens of several μm to hundreds of several μm in thickness.

23. (New) An image-forming device comprising a system according to claim 19, which comprises:

a holding unit constructed to hold the multilayer object, and
a paper feeding unit constructed to feed the multilayer object held by the holding unit.

24. (New) The image-forming device according to claim 23, wherein the frequency of the electromagnetic wave oscillated from the oscillation unit is changed in accordance with the thickness of the object comprised in the multilayer object held by the holding unit.